

# DAIRY POLICY -2008

(4<sup>th</sup> Draft)

**Assam State Task Force for Dairy Policy Formulation**

(Vide Government Notification No.VFV.236 /2007 /18 dated 24<sup>th</sup> Oct'2007)



**Government of Assam**

## Foreword

The terms of reference of the task force on dairy policy formulation constituted by Government of Assam was to facilitate a consultative process for evolving a comprehensive policy cum action plan document. The document is to be primarily based on recent research findings, evolving development models and wishes of dairy stakeholders of the state. While necessarily attempting to align with broader sectoral policies of government of India, the current document indicated priorities with list of suggested interventions. These priorities and suggested interventions were discussed in detail during taskforce meetings as well as various stakeholders and expert group meetings taking care of local constraints, pace of development, previous experiences and prevailing environment. Considering the present decentralized planning process, the background, priorities and action plan highlighted in this document beyond the general policy approach can be referred at the time of participatory planning and project formulation.

Another important objective of the current initiative was to encourage better learning of dairy development scenario in Assam so as to promote leadership at all level and to develop an environment conducive for attracting private investment.

In continuance of the current initiative, the task force suggests government to assign an appropriate executive authority, preferably with multi-agency representation, primarily to look in to:

- The implementation of suggested operational structures and prioritization of interventions.
- Ways for resource mobilization and design of innovative instruments, legal provisions.

Such authority is also required for process alignment of the state policy implementation with that of national policy and for overseeing the coordination of line departments, cooperatives and private agencies in the participatory planning process as well as to conduct policy review and impact assessment on a regular interval.

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## INTRODUCTION:

The structure of milk production world wide is diverse. The farming system differ in farm size (1-3000 cow per farm), milk yield (< 1000kg to > 10,000 kg / cow per lactation), feed basis, milking technology and the linkage to the dairy chain etc. Small scale farms dominate the South Asia, Switzerland, Australia, Norway, Finland and Poland whereas large farm provide most of the milk production in USA, Israel, Argentina, Oceania, Hungry, Czech Republic, Estonia, Denmark, Netherlands and UK.

In India the livestock keeping system is more complex and can be divided into peri-urban dairying and rural dairying. Peri-urban dairies usually keep crossbred cows and or buffaloes whereas the rural dairy farming is small holding with average herd size of around 3 animals per household. More than 80 percent of milk produced in the country in fact comes from small holding and landless farmers. India is rated as the highest milk producer in the world. This is largely due to the number of animals that is 10-times higher than USA. The per animal productivity in Indian dairy animal is the lowest in the world that is around 8-9-times lower than dairy-developed countries. Another interesting feature of the Indian dairy farming is the production system where the dairy animals are largely fed on crop residues and high producing animals are supplemented with concentrate feed.

Assam- a North Eastern state of India comprises an area of 78,523 square kilometers (30,318 square miles) with diverged topographical range. The Brahmaputra valley has a gradual slope from east to west with a difference of 99m in altitude above mean sea level. Based on rainfall, terrain and soil characteristics the state is divided into six agro-climatic zones. **Agro-climatic zones are:**

Sl.no.	Zones	No. of district	Area (Percentage)
1	North Bank Plain	4	18.37
2	Upper Brahmaputra Valley	5	20.40
3	Central Brahmaputra Valley	2	7.08
4	Lower Brahmaputra Valley	10	25.75
5	Barak valley	3	8.90
6	Hills Zone	2	5.58

The climate of the state of Assam is a humid type in plains with heavy rainfall while a pleasant sub-alpine climate prevails in the hills. The average maximum temperature during summer and winter are 30<sup>o</sup> and 16<sup>o</sup>C respectively, while the rainfall ranges from 1152 mm to 3000 mm.

Livestock and poultry husbandry is the indispensable subsidiary activity with agriculture and is considered as buffer and / or of insurance value for the family. Cattle of indigenous breed, specially bull / bullock reared for draught purpose and the female animals were kept for livestock multiplication at home.

The milk production of the state has shown a gradual increase from 1986-87 to 2005-06. The production however, decreased to 751 million tones during 2006-07 from 821 million tones in the year 2005-06. The per capita availability of milk during 2006-07 was 70gm/day in comparison to the all India figure of 246gm /day. As per 2003 livestock census the total milch bovine population of the state is 2808 thousands. Considering per capita availability and suggested nutritional requirement as well as population based demand projection, milk production in Assam leaves a huge gap with actual demand.

As the demand grows, traditional dairy activity in many pockets has transformed to small and medium scale commercial dairy activity<sup>1</sup>. Commercial dairy farming plays significant role in generating gainful employment in the rural sector, particularly among the landless, small & marginal farmers and women besides providing cheap and nutritious food to the growing human population.

An important aspect of traditional dairy in Assam is its buffaloes which are predominantly semi wild, swamp type and are reared mostly in inaccessible forest areas and river islands e.g. char areas, under a nomadic (“*Kbuti*”) system of management. A number of *Kbutis* are also rearing indigenous cattle. Limited authentic data is available on number of such *kbutis* and population and average herd size of animals in these *kbutis*. Milk production of swamp buffalo is very less but their milk is known for high fat content. The cattle and buffaloes in *kbutis* are reared mostly following a sustainable low input –low output system with owners hardly going for extra feeding. Of late the state is also witnessing inter-state import of large number of reverine *Murrah* breed of buffaloes to Assam mostly from Bihar and adjoining

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<sup>1</sup> There is no state declared norm for a commercial farm to be categorized as small or medium. Usually a small dairy farm is perceived as a farm with less than 10 milch cattle.

areas. However, farmers of only selected pockets within the state are rearing these animals as backyard homestead activity.

Employment in Dairying, Assam ('000 numbers) and percentage of distribution of employment in dairying in Assam across social groups (1999-00) are as follows<sup>2</sup>

Rural	Urban	All	Rural (%)	Urban %
35	27	62	57	43

Scheduled Caste	Scheduled Tribes	Other Backward classes	Others
8.9	9.2	26.6	55.3

The commercial dairy farms concentrate mostly in the urban /peri-urban areas due to easy access to market and accessibility to required inputs. Urban / Peri urban commercial farming is mostly dominated by traditional dairy farmers of Nepalese community. The farms are small to Medium in size. Most preferred breeds in the region are Jersey and Holstein Friesian. The farmers in general follow a management style which is a blend of inherited traditional knowledge and modern scientific understanding. Besides peri-urban farming, good numbers of commercial dairy farms are emerging in the rural areas too with support of Government and Non-government organization backed capacity building projects and financial assistance schemes.

#### **FUTURE PERCEIVED TRADE RELATED MARKET CHANGES:**

There will be opportunities as well as challenges for processed food ( including milk and other products-based ) industries in the North eastern region of India in general and Assam in particular in the light of the Look East Policy of government of India; Free Trade Agreement with ASEAN in 2012, Pan Asian Highway etc. These environmental changes will provide a plethora of opportunities for Assam and other North Eastern States to interact commercially with international neighbors with whom they share 98 percent of their borders. On the other hand GATT agreement as such will also pose challenges in the state like other parts of the country. If not large scale inflows, import under the minimum access clause will spur up competition in domestic market. These future perceived market changes

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<sup>2</sup> Computed from unit level NSSO database ( 55<sup>th</sup> Round )

indicate the need of strategies for safeguarding interest of local producers. There is a need to build their capacities not only to compete with import surges but also to export milk products to border areas of neighboring countries like Bangladesh and Myanmar. Export competitiveness in this case can be linked to perishable nature of milk products and the logistics suitability of the state thereof from the targeted foreign territories.

Total Cattle and Buffalo Population of Assam (2003)				
Cattle: 84, 19647 (72.74%)				
Total cross bred (000)		Total indigenous (000)		
440		7999		
Buffalo: 6, 77669 (5.85%)				
Population Trend in Assam (Cattle)				
Year	1982	1992	1997	2003
Population ('000) indigenous	6605	7482	7660	7999
Crossbred ('000 )	145	303	369	440
Population Trend in Assam (Buffalo)				
Year	1982	1987	1997	2003
Population ('000)	558	623	728	678*
* % growth of buffalo population in between last two censuses: (-) 6.9 against All India growth (+) 8.7%				

## **MAJOR FINDINGS AND RECOMMENDATIONS OF STUDIES CONDUCTED DURING 2007.**

### ***Comprehensive study of Assam dairy Sector (2007) – International Livestock Research Institute (ILRI)***

The study revealed dairy production to be a feasible option in Assam for raising incomes and improving livelihood opportunities, particularly for the rural poor. While recording a huge gap between demand of mostly raw milk, milk products and their supply, it suggested for dairy interventions through adoption of cluster approach addressing issues related to productivity, access to livestock services and markets and improved milk quality in the traditional sector.

According to survey many farmers expressed a desire to involve themselves in increased marketed milk production, but low milk yield and inadequate marketing infrastructure were identified as major obstacles. It highlighted the fact that government of Assam have been making efforts to bring smallholders into collective market mechanisms, but marketing of milk through the processed milk channel remains relatively insignificant and smallholders receive little remuneration.

The study cautioned that dairy systems in Assam may be too diverse to have a singular policy thrust. The report of study states: ‘We need to recognize such diversities of the system and place them within pro-poor dairy intervention designs and enable poor households to take part in the process.’ A Pro poor inclusive dairy development plan should necessarily address the problems faced by the traditional sector. In this context, the study documented the fact that most of the milk consumed in Assam is ‘raw’ unpasteurized milk supplied by smallholders which also indicates the consumer preference for whole fresh milk.

Highlighting the need to raise quality and hygiene standards for food safety and enhanced demand of locally traded milk, it suggested for certification and monitoring of milk agents and capacity building assistance to numerous poor small traders and distributors e.g. Business development services , generic advertisement campaign etc. for efficient marketing of quality milk.

***Cost of cow milk production and quality of milk produced by commercial dairy farms located within the radius of 100 km from Guwahati city (2007)***  
***(A UNCTAD funded study implemented by FARMER – Fellowship for Agri Resource Management and Entrepreneurship Research)***

The study calculated the cost of production of milk at Rs.13.24 for traditional small holder farms<sup>3</sup>, Rs.14.54 for Neo small holder farms<sup>4</sup> and Rs.10.57 for medium holder<sup>5</sup> farms. The over all average cost for all being is Rs.12.95/-.

It is recorded that a total of 216 (43.2%) respondents out of 500 managed to get price Rs.17.5 per lit of milk. The benefit cost ratio ( BCR ) for traditional small holder farmers, neo small holder farmers and medium small holder farmers were calculated as 1.05, 1.04 and 1.29 respectively with over all benefit cost ratio being 1.09.

The study recorded low per animal productivity as a predominant factor for increased cost of production in commercial operations. The fact that majority of farmers have access to artificial insemination services indicate the possibility of bringing a change in the scenario through appropriate breeding strategies clubbed with scientific record keeping.

The number of producing (milch) animals per farm was much less (around 45%) than the standard of 70 percent. The study indicated ample scope of cost reduction through appropriate fertility management and by minimizing feeding expenses on un-productive animals.

The study recorded variance in prices of various categories of animals across studied groups indicating need of organized livestock market. Other than milk income was found to be crucial for profitability of enterprises.

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<sup>3</sup>Farmers having herd size of 5 -20 cattle with experience of cattle rearing and milk marketing business for more than 10 years.

<sup>4</sup>Farmers having the herd size of 5-20 cattle with experience of cattle rearing for not more than 10 years.

<sup>5</sup>Farmers having herd size of more than 20 cattle heads with experience of cattle rearing and milk marketing for more than one year.

Cost of health care was found to be much higher which may be due to higher sickness rates or consultation for fertility failures. The findings also indicate willingness on the part of the farmers / entrepreneurs to pay for veterinary services. In order to reduce the cost of health care farmers may be advised to enter into contract of consultancy for basket of services targeted at enhanced productivity.

Feeding system that depend excessively on concentrate ration than on green grass and practices like cooking of food etc. were recorded as stumbling block towards reducing cost of production. Structured observation made during the study revealed scope of improvement in farm shed construction and land utilization.

Better management of heifer or opportunity cost of replacement with own heifer was recorded to contribute substantially in reducing cost of production.

Percentage of feed cost to overall cost was recorded at 82.68, 86.07 and 76.07 for traditional small holder farms, neo small holder farms and medium holder farms respectively. This indicates intervention aimed at reducing cost of feeding as crucial for cost reduction and competitiveness thereof.

Cost of feed was highest for less experienced neo small holder farms in comparison to other groups. Understanding of market and ability to test quality of feed ingredient in field condition besides skill of intelligent (time, source) procurement are some of the factors that can enhance competitiveness of the producers.

A critical observation regarding marketing is the fact that only 26.29 %of total milk produced by the respondents was channelized through cooperative or organized marketing route.

The study recorded that an encouraging 33.4 percent farmers from among the respondents availed loan from banks. However, average maximum amount transacted with private lending was more than that of bank transaction which indicates that although the farmers are

in active dairy business, their access to credit from public institutions is considerably less than private lenders.

The structured observation indicated that besides efficient collection system, improvement of environment surrounding farm, more particularly through creation of opportunities for waste disposal and their economic use is crucial for bringing improvement in milk quality.

## **HIGHLIGHTS OF GOVERNMENT INITIATIVES FOR DAIRY DEVELOPMENT:**

### **AACP (Assam Agricultural Competitiveness Project)**

The government, through its World Bank aided project “Assam Agricultural Competitiveness Project (AACP) has been implementing ambitious plan to upgrade indigenous cattle through artificial insemination. The project supports numerous activities of Assam Livestock Development Agency (ALDA) in this connection. These supports include assistance for programs related to cattle nutrition (Fodder development), health care and cattle diseases control.

Another important aspect of the project is its mandate to organize dispersed dairy farmers helping them to form dairy cooperative societies (DCS) and self help groups (SHG). The target for the same is 250 numbers of DCS and an equal number of SHGs. Resources are also being mobilized to provide forward and backward linkages to all DCS and SHG’s being promoted under the project.

Under the above project government is also spending on various capacity building programs involving farmer beneficiaries and government officials.

The project in the year 2007 supported a comprehensive study of Assam dairy sector through International Livestock Research Institute. (ILRI).

The government in the early part of the year 2008 handed over the management of West Assam Milk Cooperative union Ltd (Purabi Dairy) to National Dairy Development Board

(NDDDB). The cooperatives formed under AACCP are all set to be brought under the preview of NDDDB for better market linkages.

**CENTRAL SECTOR SCHEMES:** (Specific information on the schemes is available with the respective government departments)

**National Cattle and Buffalo Breeding Project**

The project envisages breed improvement programs, breeding related infrastructure development and delivery of artificial insemination service to door step of dairy cattle owners.

**IDDP-I CSS (Integrated Dairy Development Project- Phase-I & II)**

Under the above project the government is spending on construction of a number of dairy plants / chilling plants within the state to strengthen collection and processing of milk being produced by cooperatives / SHGs. Initiatives are being taken to form federation of cooperatives so as to avail benefits under the second phase of the above project as same is stipulated as mandatory for release of funds.

**Clean Milk Production (CMP)**

State is implementing this program with an aim to generate awareness for clean milk production.

**Venture Capital Fund**

The state is actively promoting the venture capital fund provisions of government of India related to dairy sector. The same fund is also being explored for induction of high breed of cattle to the dairy cooperative society members for economic sustainability of the DCS as well as overall increase of milk production in the state.

**Rastriya Krishi Vikash Yojana (RKVY)**

For 2008-09, government has submitted a project proposal with an outlay of 7.12 crores under above scheme for induction of high yielding cattle to the state from other parts of the country.

**Milk Supply Scheme – State Plan & Non Plan**

Under the scheme, milk is procured, processed and marketed for giving the rural milk producers an assured market and clean and hygienic milk and milk products to urban consumers at reasonable price.

**Milk Village Scheme –State plan**

Under the scheme, crossbred cattle are being distributed amongst the scheduled caste and scheduled tribe people of selected villages on a cluster basis.

Besides all above schemes national schemes for eradication of diseases like National Project on Rinderpest Eradication, National Project on BCPD Eradication also contributes to dairy development.

## **PUBLIC INFRASTRUCTURE AND ORGANIZATIONAL SET UP FOR DAIRY DEVELOPMENT:**

The state Veterinary and Animal husbandry department renders health care, breeding and extension services to dairy cattle owners through a total 2400+ numbers of institutions which includes polyclinics, dispensaries, sub centers, disease diagnostic laboratories, first aid and AI centers, frozen semen banks, bull rearing farms, bull mother farms, fodder and cattle farms etc. (Detail of List of Veterinary Institution in the state is appended in Annexure –II)

The dairy development department, which looks after the milk collection and processing and distribution on the other hand, renders its services through 8 numbers of dairy processing plants and 11 numbers of chilling plants. However majority of these processing and chilling plants are currently under renovation and steps are being initiated in some cases to run the plants on Private Public Partnership mode.

## **PREVIOUS POLICY INTERVENTIONS:**

During November, 2001 government of Assam constituted an expert committee to prepare the cattle breeding policy of for the state under the chairmanship of Prof.Dharmeswar Das. The policy prepared by the committee was accepted by the government for implementations vide a notification dated 30<sup>th</sup> December'2002. Copy of the policy is enclosed in the annexure-I.

Government of Assam has also been promulgating various need based acts besides numerous notifications. E.g. Notifications for tax exemption in Animal Feed etc.

Some of the prominent acts include:

The Assam Cattle Diseases Act'1948 (To prevent spread of contagious diseases)

The Assam Cattle Preservation Act, 1950 (- Amendment 1976, Preservation of certain cattle by controlling the slaughter)

The Cattle trespass Assam (amendment) Act'1936 (To protect crops)

Livestock Importation Act (To regulate import of livestock / products)

## **THE POLICY APPROACH:**

The policy attempts to demarcate commercial dairy production system from that of homestead traditional (low input low output production) systems (including buffalo-cattle *Kbutis*) giving due importance to both. Based on resource position, population density and environmental suitability it suggest for notification of production clusters for promotion of commercial dairy operation with quality animals only. Such notification will facilitate critical, planned and appropriate allotment of resource needed to sustain intensive commercial operation to be promoted in such clusters. The policy recognizes the fact that while extensive promotion of commercial operation in notified clusters is needed for surplus production to feed the deficit urban areas and to generate employment thereof, homestead traditional farming is related to sustainable agriculture, rural livelihood and nutritional security in rural areas.

In promoting the commercial clusters, it suggests that, minimum number of milch animal per cluster / per dairy unit of any cluster should essentially be decided beforehand. The same should be based on participatory system research and market dynamics specific to that area. This is needed to ensure long term economic viability of a cluster in general and commercial dairy farms within that cluster in particular. Such an action is also needed to ensure continuous earning and appropriate involvement of beneficiaries growing mostly with bank finances. Forward and backward linkage of clusters should be taken up simultaneously on a planned manner preferably on public private partnership mode.

Recognizing the importance of quality animal, infrastructure, focused service and breeder involvement in breed development initiatives, the policy suggest demand driven inter state import of graded pregnant heifers and milch cattle (with not more than 62.5 % Jersey inheritance ) to notified clusters, community and private rearing of local heifers and cross breeding of local / imported stock through Artificial insemination (up to maximum 62.5% Jersey or HF inheritance<sup>6</sup>) only in notified clusters.

Drawing references from number of develop and developing countries, the policy suggest adequate public funding of breeding related infrastructure development, animal identification

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<sup>6</sup> Assam Cattle Breeding Policy-2002

and computerized record keeping initiatives<sup>7</sup> in such clusters, which is essential for planned breed development and preventive health care.

Improvement of genetic potential of animals through cross breeding which is widely practiced in the state must be made in conjunction with improvements in the availability and quality of feeds. Contrary to the ongoing focus on mass insemination, the current policy takes an approach where by Artificial Insemination (AI) service will be strengthened only within the notified clusters instead of the entire state. The focus will be to develop a mechanism for ensuring fertility treatment, quality insemination, breeder involvement and appropriate monitoring primarily based on conception rate rather than quantity of insemination conducted. Suggested concentration of AI service only within notified clusters in this regard will permit easy maintenance of service standards and judicious allotment of resources including commercial production of fodder. It is also unlikely that concentration of AI service only within the notified clusters will hamper achievement of any targeted upgraded population in the state; rather the same will increase the population due to increased cluster penetration and service efficiency.

Study on cost of production conducted amongst commercial dairy farms in and around Guwahati – the capital, reveals that profitability of urban /peri urban farms are at stake due to high cost of production. The efficiency of these farms is also showing a decreasing trend as animals are being reared under unhygienic / unscientific housing conditions. The opportunity cost of maintaining these farms within / near cities is also likely to increase in the years to come. As peri-urban dairy are playing important role in ensuring regular supply of milk to cities, the policy therefore suggest exploring the possibility of translocation of select scattered peri urban dairy farms to an integrated dairy estate.

The above study indicates that current feeding practices in the state, more particularly amongst the urban and peri urban commercial farms are predominantly grain based. There is also wastage in feeding which can be controlled through proper management. It therefore suggest an approach aimed at facilitating commercial fodder production and increase

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<sup>7</sup> As practiced by cooperatives in rural Maharashtra and other parts of the country with software / hardware validated by National Agencies like NABARD

availability of nutrient enriched crop residues as same is essential for efficient and low cost milk production. To enhance the profitability of dairy farms much also needs to be done to develop livestock market and market for cow dung based vermi-compost.

To sustain homestead traditional farming / buffalo-cattle farming in *Kbutis* both within and outside notified clusters, the policy suggests government assisted grading program (including awareness development) through controlled / select breeding e.g. distribution of graded male swamp buffalo to *Kbutis*. The approach in this regard should be to design a sustainable support system to permit the poor farmer earn more (direct or indirect earning) from his / her cattle / buffalo. As a measure to enhance the environmental asset of poor people engaged with cattle rearing, participatory programs should be taken as an approach for ensuring rejuvenation of common property resources (CPRs), conservation of grazing land etc. across the state.

It is known that poor focus on asset rather than income. The lack of asset is linked with poor people's vulnerability as they are exposed risk. The policy therefore suggest for extension of ongoing scheme pertaining to distribution of cattle to women of BPL families. The said scheme should however, be reoriented to focus on giving the poor ownership of assets rather than income from milk. This can be done by not necessarily supplying cross bred cattle alone, which many a time a poor may not be able to rear.

It is scientifically observed that the vast majority of indigenous / cross bred dairy cattle in Assam suffers from nutritional / mineral deficiency in lean seasons or post flood period besides high incidence of worm infestation. These deficiencies coupled with worm infestation leads to poor health and reproductive abilities thus jeopardizing publicly funded grading initiatives. The policy therefore suggests focused actions aimed at generation of awareness for appropriate feeding, development of regulated market for enriched crop residues and facilitation of production and distribution of mineral mixtures and anthelmintics prepared as per local standard.

The policy takes a critical note on impact of perennial flood on health of dairy cattle and suggests for public funded pre-monsoon stocking of feed and fodder and their planned

distribution both during and post flood period. It also suggests strengthening of existing laws to prevent reported unauthorized smuggling of graded cattle from the state to neighboring countries.

Importance of livestock for sustainable agriculture is well documented. Increasing miniaturization of landholdings and high fuel cost limits use of machinery. A new approach to animal traction, with appropriate equipment for most farm operations can play a significant role in agricultural intensification. In an attempt to focus more on milk production, the policy cautions the possible undermining of the role of cattle in this regard.

Inability of majority of small commercial dairy enterprises / developing milk production clusters to scale up and achieve a sustained growth path is commonly considered to reflect, among other factors, the inadequate supply of skilled services to continuously address modern farm management needs. The static or declining growth trend of majority of micro and small enterprises in commercial dairy sector in the state is closely linked to frustration of educated youths and the disturbances there of. Veterinary services in the state have traditionally been provided by the government free of cost, but public finance constraints have limited the availability and effectiveness of public services. This is more so for advancing small enterprises / developing clusters that demands affordable, accountable, accessible services that are client centric, continuous and delivered at the door step. An alternative revenue centric service delivery system on mission mode<sup>8</sup> with government equity and basic regulatory control in the above context can complement state actions and create enabling environment for sustained growth. The need for creating such an additional service delivery system on a mission mode is also linked to the fact that animal to veterinarian ratio in the state is very low, none of the cooperatives / private processors has their in house service wings and large numbers of trained veterinarians in the state are being underemployed. Banking institutions should also essentially be involved in such mission as same will ensure service demand / publicity through possible linkage<sup>9</sup> of bank finance

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<sup>8</sup> Operational arrangement with specific monetary allocation that permit involvement of multiple agencies under one command structure

<sup>9</sup> Service buy back by banks

with services of the mission such as on farm training and performance monitoring of funded farm and non farm enterprises in dairy sector.

Recognizing the need of integration through contract growing and development of medium to large scale commercial units in farm and non farm sector, the policy suggest appropriate action for encouraging private sector investment both from within and outside the state.

Another critical approach in the designing of the current policy is the suggestion to review the fact that there is a need to look both organized and unorganized milk trading activity from its strategic advantages and own perspectives. Both the trading system can be complementary to each other.

As unorganized sector is predominant in milk trading in Assam and likely to remain so for next couple of years, there is justification of actions aimed at building the capacity of unorganized sector to immediately address the growing concerns related to milk and milk based food hygiene and safety.

The current policy aptly recognizes the importance of milk in human health and food security and suggests approaches to promote demand for quality milk. E.g. inclusion of milk in school 'mid day meal' program, Consumer awareness for quality milk etc.

Poor rural infrastructure coupled with dispersed nature of farms in the state is one of the greatest hindrances to efficient quality milk procurement from interior areas to urban processing centers. Milk quality is directly related to the time required from production to processing. Productions in most of the rural pockets are also not sufficient to justify large investment on shelf-life enhancing facilities. In this context the policy attempts to explore the options of innovative local value addition suggested and tested by national and international agencies. The importance of such value addition is even more so in case of buffalo / indigenous cow milk coming from interior *char* (floodplain) areas.

Identifying the strong consumer demand for whole milk and customer convenience as the root cause of growing unorganized trading of unpasteurized milk in the state, the policy attempts to highlight the need for innovation in milk marketing preferably involving private organizations. The policy also recognizes the fact that the consumers in the state are inadequately informed or rather misinformed about the Non UHT packet milk. This approach linked to policy suggestion for a generic advertisement campaign on a public private partnership mode for enhanced demand and appropriate positioning of packaged non UHT milk.

Strong enforcement of legal provision as envisaged in the policy is guided by the fact that, unauthorized reconstitution of milk and their marketing is the prime criterion affecting the market dynamics severely. Farmers producing quality milk suffer immensely from such practice as reconstituted milk are cheaper and can substitute pure whole milk / scientifically processed milk easily.

Considering the need of collective leadership and change agents, the policy recognizes an approach to build capacity of stakeholder organizations e.g. Milk federations etc. and government departments. The approach for government departments in this regard should be to implement relevant schemes under National e-governance plan (NeGP) that attempts to make governance in India responsible, responsive and representative.

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### **Policy vision**

A vibrant dairy sector, recognized for its role as a sustainable 'milky route' to food / livelihood security, better human health and efficient enterprise growth for inclusive development.

### **Policy Mission**

- To augment leadership at all levels e.g. Creation of Milk Producers Institutions (MIP's) e.g. cooperatives, SHGs, Leadership within agencies for professional and responsive service delivery.
- To ensure critical resource utilization for sustainable production e.g. Cluster focus and intensification of AI / Feed and fodder management in such clusters, conservation of Common Property Resources across the state etc.
- To build capacity of stakeholders for efficient production and competitive marketing of safe milk and milk products.
- To ensure food, livelihood security and poor people access to milk and milk products e.g. Protection and increase poor man's ownership of indigenous / crossbred cattle wealth.
- To augment demand for locally produced milk ensuring consumer health e.g. Generic advertisement campaign, Prevention of adulteration of milk / milk products
- To ensure equitable and inclusive growth across producers, entrepreneurs, milk traders and processors.

### **The Policy objective**

The policy aims at achieving the efficiency in milk / milk product production and trading, ensuring better human health, conservation of resources, market stability and inclusive<sup>10</sup> / equitable<sup>11</sup> rural growth.

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<sup>10</sup> Accommodating difference and combating discrimination

<sup>11</sup> Fair distribution of income and wealth within society

## 25 POINT POLICY STATEMENT:

1. Emphasis on augmentation of environment friendly milk production<sup>12</sup> across the state, creation of local market<sup>13</sup> and capacity building for small scale value addition by registered entities in interior rural areas having marketable surplus.
2. Notification of production clusters<sup>14</sup> and Mission mode campaign with possible participation of processors for development of Primary cooperative / SHGs in such production clusters for commercial dairy operations. Fixing of minimum number of milch animal per cluster / per dairy unit of any cluster based participatory system research and market dynamics.
3. Strengthening of preventive health care services and appropriate management of state animal breeding, feed and fodder production infrastructures e.g. facilities for supporting Artificial insemination, more particularly near notified clusters in collaboration with cooperatives and private organizations.
4. Sensitization of banks for support to individual, community cluster level heifer farming<sup>15</sup> and institutionalization<sup>16</sup> of demand driven hassle free inter-state import of graded pregnant heifers and milch cattle (with not more than 62.5 % Jersey inheritance ) to notified clusters for distribution to select experienced farmers only.
5. Promotion of stall feeding practices and quality animal<sup>17</sup> rearing within notified clusters essentially supporting farmers within the cluster with basic knowledge for rearing of such animals and finances for procurement of replacement stock.
6. Legislation for Compulsory Animal Identification (CAI) at each notified clusters and public funding for development of cluster level computerized animal data recording system<sup>18</sup> for planned breed development<sup>19</sup> and preventive health care.

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<sup>12</sup> That recognizes animal biodiversity and their role in sustainable agriculture and takes care of rejuvenation of common property resource (CPR).

<sup>13</sup> Local procurement of milk for mid day meal in schools in rural areas.

<sup>14</sup> Based on resource position, population density and environmental suitability etc.

<sup>15</sup> By community organizations that ensures pooled resources, SHG's and private entities.

<sup>16</sup> Inter state import, tagging and rearing of pregnant heifers / milch cattle till acclimatization by technically competent agency before same is marketed / distributed amongst experienced beneficiaries.

<sup>17</sup> Up to 62.5 per cent Jersey / HF inheritance using AI based on cluster resource.

<sup>18</sup> As practiced by cooperatives in rural Maharashtra and other parts of the country with software / hardware validated by National Agencies like NABARD

<sup>19</sup> As per state breeding policy ensuring involvement of farmer organizations.

7. Strengthening of provisions of The Assam Cattle Preservation Act and its enforcement through state police / department of animal husbandry and veterinary particularly in and around notified clusters for preventing slaughter and unauthorized export of live productive young animals to neighboring countries.
8. Encouragement for voluntary adoption of control or select breeding in other than notified clusters / remote rural areas more particularly by awareness development. Specific program in such areas e.g. Support for homestead rearing of limited number of local cows for nutrition security, community initiatives for rejuvenation of common property resources (CPRs), Social forestry initiative for fodder tree plantations, conservation of grazing land etc.
9. Capacity building of community organizations / SHGs in interior rural / flood prone areas for emergency care and disaster management.
10. Focus on pre-monsoon stocking, value addition and enhanced supply of quality feed and fodder to flood affected areas both during the flood as well as for minimum of three months post flood period as a means to sustain development initiatives undertaken in such areas.
11. Focus on facilitating production and easy availability of mineral mixtures and drugs for regular de-worming of calves either through public / private distribution system as per standard developed for the state<sup>20</sup>.
12. Facilitation of trade in Livestock, fodder, nutrient enhanced crop residues and cow dung based vermi-compost in regulated markets<sup>21</sup> near notified production clusters.
13. Public funding of focused initiative to develop training kits for farmers on appropriate feeding / housing methods as well as ways to reduce cost.
14. Linking such as by service buy back arrangement with bank etc. of dairy enterprises (Both farm and non farm sector) particularly within notified clusters with third party<sup>22</sup> 'on farm' training, scientific record keeping, disease surveillance<sup>23</sup> and performance monitoring system.

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<sup>20</sup> AICRP on improvement of feed resources and nutrient utilization for raising animal production, AAU

<sup>21</sup> Under Agricultural Produce Marketing Act.

<sup>22</sup> Agency under regulatory control of state department with significant public funding to be promoted jointly by bank, insurance companies and NGOs

<sup>23</sup> Ensuring enforcement of relevant provisions under the Assam Cattle Disease Act with an aim to leverage on OIE declaration on zoning of country for Rinderpest and FMD.

15. Alternative<sup>24</sup> mobile service delivery mechanism for notified clusters on a mission mode, augmentation of cluster level coordination of line departments viz. Department of A.H & Veterinary, Department of Dairy development, Department of Agriculture, Department of Panchayati Raj and Rural Development and other enterprise development agencies. Knowledge sharing with private and public sector experts from developed dairy belts across the country for ensuring planned use / development of cluster resources.
16. State supported quality control, incubation<sup>25</sup> and marketing assistance for value added dairy products from registered rural Micro Small and Medium Enterprises.
17. Focus on development of mix of market channels beyond cooperatives e.g. Producer companies, certified and quality trained vendors etc. Assistance to cooperatives for farmer centric services / welfare schemes.
18. Systematic approach to facilitate quality awareness amongst unorganized milk traders. Pilot testing of successful models for efficient milk marketing involving unorganized milk traders.
19. Focus on customer convenience and consumer capacity building for efficient milk distribution and prevention of adulteration. E.g. Door to door delivery of milk, training on sensory evaluation of milk and facilitation of efficient distribution of milk testing kit in association with consumer / resident welfare associations etc.
20. Clean milk production (CMP) campaign to include cluster or community action on improvement of cattle shed floor, drainage and augmentation of commercial usage of cow dung etc. Focus on achieving convergence of government scheme in milk cluster areas related to sanitation, road communication and development of clean water facility.
21. Focus on resource mobilization for translocation of select urban / peri urban dairy farms to integrated dairy estate near city.
22. Institutional capacity building for enforcement of existing laws pertaining to adulteration e.g. unauthorized reconstitution of milk

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<sup>24</sup> Innovative revenue centric veterinary service delivery system with equity contribution and regulatory control of government.

<sup>25</sup> Laboratory, common manufacturing and packaging facility for test production of unique dairy products

23. Generic campaign on public private partnership mode for demand creation and appropriate positioning of packaged (mostly no UHT) milk by local cooperatives and enterprises.
24. Institutional networking<sup>26</sup> capacity building of representative stakeholder associations.
25. Implementation of e-governance initiatives in the line departments associated with dairy development for ensuring responsive delivery of citizen centric services.<sup>27</sup>

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<sup>26</sup> Pooling of best human resources from institutions for strong back office arrangement to support extension services.

<sup>27</sup> National governance Plan ( NeGP ), GOI

## **Chapter A.1 Breed Development and Availability:**

A.1.01 In pursuant of Cattle Breeding Policy of the state, attempt will be made to develop, upgrade infrastructure for effective artificial insemination services in notified developing clusters. All attempts will be made to widen the coverage of the service to the extent possible without compromising on quality of service delivery. Alternative service delivery system under regulatory control of government set up by NGOs / Private concerns / agri-clinics will be encouraged to compliment state effort where possible.

A.1.002 Producers of interior areas which are inaccessible, where artificial insemination facility is not feasible and flood prone areas where farmers are not in a position to afford feeding and management of genetically improved animals will be educated on selective / control breeding method. Community rearing or rearing by experienced farmer of certified bull for natural breeding in such areas will be encouraged and support will be provided in terms of credit, health care and nutrition assistance

In implementing the breeding policy all efforts will be directed towards:

A.1.003 Herd registration of elite cows in select clusters, awarding high yielding animals and promoting scientific management of heifer / select male calf rearing from such animals either at individual farms or collectively at cluster level.

A.1.004 Facilitation of supply of mineral mixtures being prepared as per standard norm suitable for the state for addressing the infertility related problem which is jeopardizing breed development initiatives.

A.1.005 Bringing appropriate legislation for setting up of State Livestock Genetic Regulatory Authority under administrative set up of Assam Livestock Development Agency (ALDA) for recognition of animal identification, registration and animal performance recording (including progeny testing, milk recording ) as a public function for direct state funding.

A.1.006 Computerized record keeping and development of cluster / state level animal data management system to monitor development.

A.1.007 Information dissemination and capacity building of farmers regarding farm level planning for breed improvement, record keeping and appropriate nutrition.

A.1.008 Bringing efficiency in reporting system, ensuring continuous training / motivation of field staff on technical and operational parameters.

A.1.009 Preventing unauthorized slaughtering / smuggling of productive animals (Local as well as improved)

A.1.0010 Instituting reward mechanism at all levels for efficient record keeping and farm level guidance.

## **A.2 Availability of quality animals**

A.2.001 With an aim to create remunerative market for productive animals and to facilitate easy availability of quality animals for first generation entrepreneurs, the state will encourage involvement of suitable agencies for developing dynamic cluster wise database of productive animals for trading.

A.2.002 Heifer farming by community based organizations through pooled resources or by experienced Self Help Groups (SHG's) and individuals will be popularized and awarded with.

A.2.003 The state will facilitate need based, demand driven hassle free inter-state import of graded pregnant heifers and milch cattle (with not more than 62.5 % Jersey inheritance) to notified clusters for distribution to experienced farmers. Such imported animals will be tagged for traceability and focused performance monitoring following acclimatization phase at government / private facility.

## **B. Buffalo Farming:**

B.1.001 Considering the importance of swamp buffalo on the livelihood of people in forest and river island (char) areas, the state will recognize / support ( where possible ) the rearing of such buffaloes under traditional nomadic (“Khuti”) system of management without hampering the existing rules pertaining to protection of reserved forest areas. Provisions of the scheduled tribes and other traditional forest dwellers (Recognition of Forest rights) Act, 2006 (No.2 of 2007) will be explored in this connection.

B.1.002 All attempts will be made to develop a community support system for preventing unauthorized human settlement in grazing areas, which is closely linked with loss of grazing land and theft of buffaloes for meat purpose.

Attempt will be made:

B.1.003 To augment selective (Control) breeding in *Khutis* by way of support for culling and introduction of certified bulls of swamp buffalo.

B.1.004 To augment cultivation of economically important perennial fodder grasses such as ‘Vetiver’ (*Chrysopogen Zizanioides*) in char areas.

B.1.005 To provide units rearing buffaloes (*Khutis*) with assistance in terms of health care kit, mineral supplement, vaccination assistance etc.

B.1.006 To provide support to identified Veterinary clinics for purchase of modern equipments required for effective vaccination of buffaloes in *Khutis* besides regular ring vaccination of domestic cattle population surrounding reserve forest areas.

B.1.007 To support attempts aimed at value addition of buffalo milk either at *Khutis* or its appropriate transfer to collection centers away from *Khutis*.

B.1.008 To popularize near organic nature of buffalo milk and milk products when produced under *Kbuti* system.

B.1.009 A competent organization shall be entrusted with the responsibility of conducting a study on feasibility of cross breeding of swamp buffalo with riverine breeds like *Murab* in Assam condition. Based on findings, such crossbreeding will be allowed only in organized farms in accordance with the breeding policy of the state.

B.1.0010 Economics and experiences of raising *Murab* buffaloes as observed in select areas will be documented. All attempts will be made to ensure availability of support services (including facilitation of possible inter state import of male *Murrah* buffaloes) tailored to the recorded need of farmers.

### **C. Health care**

While maintaining cluster focus:

C.1.001 Based on endemic cattle diseases in the state, attempts will be made to upgrade production and scientific transportation facility for veterinary biological ensuring regular supply. Public private partnership will be encouraged where possible to ensure appropriate research works and availability, distribution of required biological through out the state at appropriate time.

C.1.002 A focus campaign will be initiated to help farmers detect infertility related problems for planned treatment of the same or replacement of the stock. Supply of deficient minerals which often leads to infertility will be undertaken as highlighted under A.1.004

C.1.003 Supply of anthelmintics (for parasitic infestation) at subsidized rate to graded calves of dairy owners will be initiated.

C.1.004 Suitable award mechanism preferably with participation of non governmental organization at district level will be instituted under District Diagnostic Laboratory (DDL) infrastructure for effective reporting of diseases. Infrastructure for disease surveillance in bordering areas / inter state check gates will be strengthened. All efforts will be made for

scientific documentation related to disease surveillance activities with an aim for future trade facilitation.

C.1.005 Attempt will be made to educate farmers on various aspects of animal behavior and physical conditions to ensure farmer participation in early disease reporting.

C.1.006 State through appropriate means shall also ensure availability of assortment of quality animal health / diagnostic products under supervision of registered Veterinary practitioners, necessarily preventing exploitation of farmers.

C.1.007 The state will sensitize field veterinarians on least cost treatment approach for common ailments on a periodic basis. Community knowledge on disease forecasting methods will be scientifically explored, documented and disseminated in local languages.

C.1.008 Prominent display of local language material on comprehensive vaccination / health care schedule etc. at public facility as well as farmer premises will be encouraged.

#### **D. Service Delivery, Entrepreneurship Development & Attitudinal Transformation**

D.1.001 Capacity building of panchayats will be undertaken to ensure peoples participation in animal health care and extension activities and to generate awareness and motivation for dairy farming. Mobile health care infrastructure (where possible) will be introduced with active participation of communities and donor agencies.

D.1.002 For augmenting entrepreneurial growth attempt will be made to develop atleast one model commercial dairy farm under each panchayat. Such model farms will be assisted as 'farm school' for encouraging informal learning.

D.1.003 Self help journalism<sup>28</sup> will be encouraged for motivation and technology adoption.

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<sup>28</sup> Journalism based on the philosophy of farmer participation in the generation of information.

D.1.004 State will also initiate steps for giving visibility to deserving entrepreneurs so as to achieve greater demonstration effect.

D.1.005 Initiatives for contract farming or for setting up of enterprises for forward and backward integration e.g. setting of cattle feed plant etc. will be assisted and awarded with.

D.1.006 For ensuring sustainable growth of farm and non farm MSME<sup>29</sup>s related to dairy sector in promoted clusters, the state on a mission mode<sup>30</sup> shall work for developing an alternative client centric, continuous ( at the door of enterprises / farmers ) and fee based service delivery system with government equity and basic regulatory control for addressing the need of such enterprises. Participation of cooperatives, other than government agency in such alternative service delivery initiative of the state will be augmented with priority as livestock services e.g. AI, De-worming, Vaccination are time sensitive (which the government institution alone, at times are not able deliver due to financial and bureaucratic constraints).

D.1.007 Considering the large unorganized nature of the sector, more particularly small milk traders and workers engaged with sweet manufacturing units, the state will ensure their coverage under relevant acts to ensure their social security needs.

D.1.008 Attempt will be made to bring attitudinal transformation amongst society in general and the younger generation of farming communities in particular for ensuring smooth succession of family business related to dairy sector.

## **E. Credit & Insurance and welfare support:**

E.1.001 Innovative formal credit delivery<sup>31</sup> to poor dairy farmers by agencies will be facilitated, so as to minimize their dependence on credit offered by milk man. This is necessarily to enhance the bargaining power of poor producers in the market place.

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<sup>29</sup> Micro-Small and Medium Enterprises

<sup>30</sup> Operational arrangement with specific monetary allocation that permit involvement of multiple agencies under one command structure.

<sup>31</sup> Credit schemes that attempts to provide farmers the convenience provided by the village money lenders

E.1.002 Credit support to dairy MSME s (Both farm and non farm sector) where possible will be linked to third party scientific record keeping and performance monitoring. The third party in this case may be an accredited agency that grows with service buy back commitment from banks.

E.1.003 Model DPR (Micro / Small / Medium units) specific to state condition will be developed in joint association with leading banks, refinance and development financing organizations.

E.1.004 Attempt will be made to extend the ongoing milk village scheme<sup>32</sup> to cover select women of BPL families residing in developing dairy clusters. External fund mobilization from other than government sources to partially support such kind of welfare scheme will be taken up on priority.

E.1.005 Appropriate welfare scheme will be designed for skilled and semi skilled labors engaged in sweet manufacturing

## **F. Feed & Fodder**

F.1.001 The state will encourage community involvement for fodder plot development, planting of fodder trees and steps for rejuvenation of other common property resources (CPR). Panchayats will be encouraged for proactive steps to include fodder tree plantation under social forestry and initiatives for setting up of pound for free roaming stray animals where same is a hindrance for success of such endeavors.

F.1.002 Existing government fodder farms and available departmental land (where possible) will be used for commercial cultivation of fodder under the supervision of district level Joint management committees. Pilot initiatives under public private partnership will be undertaken near commercial clusters aimed at production of fodders including those using hydroponics technologies.

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<sup>32</sup> Grant in aid state plan scheme that includes distribution of crossbred cattle, shed etc. The scheme, based on fund allocation is targeting 180 SC & ST beneficiaries during annual plan 08-09.

F.1.003 Steps will be taken to establish regulated market of fodder, nutrient enhanced crop residues and cow dung to address constraint related to high production cost. Where such market development is not feasible, attempt will be made to link farmers with fodder cultivators.

F.1.004 Community or SHG initiatives for utilization of waste land, forest land in fringe areas, dry fodder treatments and silage production will be supported through appropriate government schemes in partnership with agriculture and forest department.

F.1.005 The state through appropriate agency shall promote fodder seed production and distribution. Participation of private organization in seed production and distribution will be facilitated. Production of low cost motorized chaff cutter and other implements needed for efficient use of crop residues will be promoted and supported as small scale industry.

F.1.006 Production and pre flood storage of balanced feed block / nutrient enhanced feed block of available agricultural bio mass will be promoted both at government and private facility. The state will explore possibility of supply of such feed block to flood affected areas both during the flood as well as for minimum of three months post flood period.

F.1.007 National level companies engaged with cattle feed marketing will be encouraged to set up branch office at state capital for more focused customer friendly marketing services.

F.1.008 Local feed industry will be supported for undertaking focused work and studies aimed at encouraging healthy competition, quality / price monitoring and commercialization of proven unconventional feed resources.

F.1.009. The state will explore development of a participatory monitoring mechanism jointly with feed sector stakeholders to ensure continuous supply, quality and fair trade practices in relation to interstate import of feed ingredients / finished cattle feed.

F.1.010 Possible regular supply of subsidized wheat bran to farmer groups, feed millers through appropriate government agency will be explored and implemented where possible.

F.1.011 A state level survey will be considered to access the available land resources involving block level agencies and NGOs. Findings of such survey will be utilized to prepare specific fodder production schemes in conjunction with dairy cluster development program.

F.1.012 Tested research outputs<sup>33</sup> pertaining to cultivation of forage legume along with rice / other crops will be studied in Assam context for popularization.

### **G. Milk Collection, Distribution and food safety.**

G.1.001 The state will augment development of marketing channels other than cooperatives such as Micro or small enterprise on Milk Procurement and distribution under franchisee agreement with processor or major private sector retailing companies.

G.1.002 Successful cooperatives in the state will be brought under state level milk federation. Structure, rules, monitoring framework and activities of the federation and tires<sup>34</sup> accordingly will necessarily be framed according to the guidelines of national agencies. Participation of farmers more particularly at the primary level will be encouraged through appropriate capacity building and award system.

G.1.003 The state will facilitate integrated 'Farm shed' area development proposals from private processors.

G.1.003 The state will facilitate quality certification of milk collection and distribution agencies and shall augment application of IT based tools for transparent milk weighing, testing and payment to producers at per with milk quality.

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<sup>33</sup> Double the benefit: Legumes improve both milk and rice production ( DFID funded research tested in Bangladesh ) [www.researchintouse.com/database](http://www.researchintouse.com/database) ( Ref.LPP08 )

<sup>34</sup> DCS and Unions

G1.004 Setting up of community milking facility in plains will be explored in consultation with farmer associations. Low cost, hand operated milking machine developed in India by grassroot innovator will be tested in pilot areas for its efficacy and applicability.

G.1.005 Product / Process and Market related innovation based on consumer need, will be awarded appropriately e.g. unpackaged bulk liquid sale of processed milk

G.1.006 Capacity building assistance and credit availability to enterprises, farmer / trader groups including newspaper agencies will be considered on priority for door to door delivery of packaged milk to consumers in urban areas providing maximum possible customer convenience.

G.1.007 State on priority shall constitute joint action group at state level involving representative of dairy directorate, municipal and police administration for fixing milk standards specific to the state and strict enforcement of existing laws pertaining to food (milk) adulteration e.g. unauthorized reconstitution of milk. Such joint action group will be provided with relevant legal and administrative power through appropriate legislation. Role definition of partner agencies and sufficient fund allocation for ensuring mobility of members of joint action group will be taken up on priority.

G.1.008 State will support a generic campaign on public private partnership mode for demand creation and appropriate positioning of packaged non UHT milk by local cooperatives and enterprises.

G.1.009 Awareness campaign on sensory evaluation of milk quality will be organized in joint association with consumer forums and resident welfare associations. Attempt will be made to ensure easy availability of simple milk testing kits to public in general and consumer forums and resident associations in particular.

G.1.010 State through appropriate agency shall provide photo identity card to milk vendor in major towns. Civil society organizations, resident association will be encouraged to list milk vendors in their respective areas to ensure traceability in case of adulteration.

G.1.011 Clean milk production (CMP) campaign initiated by the government shall necessarily include cluster or community action on improvement of cattle shed floor, drainage and augmentation of commercial usage of cow dung etc. Attempt will be made to achieve convergence of government scheme in milk cluster areas related to sanitation and development of clean water facility.

G.1.012 Growth of private organizations specializing in technologies related to maximize use of farm manure e.g. Bio gas production use will be encouraged.

**H. Processing and Value Addition:** Along with strengthening of existing government processing infrastructures through public private mode, the state will explore possibility of small scale milk processing in the line with FAO Village Milk Processing model<sup>35</sup>. All attempts will be made to:

H.1.001 Impart cluster level training to registered enterprises related to value addition quality control of raw materials, product standards & food safety guidelines, sources of inputs and market requirement.

H.1.002 Establish state level tool room for grassroot technology incubation, packaging and equipment hiring facility preferably under public, private partnership (PPP) mode for use of registered small enterprises.

H.1.003 Regularly sensitize banking and micro finance institutions on viable schemes and exploring possible state support by means of tax rebate on equipments etc.

H.1.004 Provide assistance in cluster level infrastructure development e.g. Solar Energy Production, Chilling facility etc and transportation of processed products to market (Especially for produce of char areas).

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<sup>35</sup> Lambert J C, FAO Animal Production and Health Division, FAO Animal Production and Health Paper and Learning from Community Livestock and Dairy Development Project, Grameen Bank, Bangladesh

H.1.005 Facilitate trade of processed products by registered small enterprises by way of undertaking generic promotion campaign, possible tax exemption, assistance in getting shelf space in government supported retail outlets, brand building and quality certification etc.

H.1.006 Explore ways of obtaining product / process patent on behalf of producers (Where required).

### **I. Infrastructure Investment:**

The state will mobilize resource for infrastructure investment in dairy sector from multiple sources ensuring convergence of existing and planned government and non government schemes at the same time. Participation of private organizations will be facilitated for such infrastructure development.

I.1.001 The state will encourage setting up / up-gradation of breeding related infrastructures viz. Bull mother farm, Quality laboratory, Liquid nitrogen production and storage plant etc.

I.1.002. Large scale private investment for integration through farm input sector such as animal feed production, vaccine production etc. will be encouraged and assistance will be provided in terms of land lease, power connectivity and tax rebate as applicable.

I.1.003 Creation of infrastructure for computerized milk collection and community milking (where possible) will be initiated in notified production clusters.

### **J. Research and Development:**

The state will augment research and development effort of public and private institutions more particularly in the areas of:

J.1.001 Control group monitoring, germplasm conservation and development of genetically competent local breed of cattle.

J.1.002 Reproduction, infertility management and Artificial insemination.

J.1.003 Feed and Fodder development

J.1.004 Land use, Housing and environment management

J.1.005 Disease surveillance, vector control and Scientific exploration of alternative healing and disease forecasting methods.

J.1.006 Impact of livestock farming on sustainable agriculture and climate change

J.1.007 Affect of global warming on livestock production and reproduction.

J.1.008 Socio economic impact, logistics and Value chain analysis.

J.1.009 Cost of production, Economics & Entrepreneurship Development

J.1.0010 Basic scientific research pertaining to product and process innovation.

J.1.0011 Research pertaining to appropriate management of common property resources (CPR)

### **K. Knowledge Transfer and Trade capacity building**

K.1.001 The state will ensure publication of a comprehensive guide book in vernacular language related to modern methods of dairy farming and value addition to milk products. Appropriate agencies will be entrusted with the responsibility of content development and production of audio-visual programs on dairy farming for transmission through doordarshan and local radio channel.

K.1.002 Attempt will be made to pool best possible human resources including from other than government institutions for strong back office arrangement aimed at efficient delivery of extension services through Common Service Centers<sup>36</sup> (CSC).

K.1.003 For responsible public service delivery and to ensure transparent execution of central and state sector scheme for dairy development, all attempts will be made to make relevant departments e-friendly as per provisions made through National e-governance plan of Government of India.

K.1.003 Attempt will be made to build capacity of dairy stakeholders' associations to lead the sector with collective wisdom. Support will be provided for exposure visit, training of functionaries on policy and trade issues, Market trends etc.

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<sup>36</sup> National governance Plan ( NeGP ), GOI

K.1.004 For knowledge sharing, participatory planning and to ensure involvement state will organize dairy stakeholders' consultation at regular interval. Such consultation should necessarily be clubbed with day long dairy exposition showcasing technology and people's effort from across the country.

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List of Annexure:

1. Breeding Policy for Cattle and Buffalo in the state of Assam – 2002
2. Overview of Government Infrastructures
3. Details of current acts and specific notifications.
4. Review notes of organizations.
5. Review of National Policies.
6. Detail note on participatory exercise including steps for validation considered.